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DATE: Monday, September 20, 2004

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		<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L3	L2 and 49143	5
<input type="checkbox"/>	L2	OMP106 and moraxella	24
<input type="checkbox"/>	L1	OMP106	24

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L1: Entry 20 of 24

File: USPT

Apr 10, 2001

US-PAT-NO: 6214981

DOCUMENT-IDENTIFIER: US 6214981 B1

TITLE: Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tucker; Kenneth	Frederick	MD		
Plosila; Laura	Cary	NC		
Tillman; Ulrich F.	Olney	MD		

US-CL-CURRENT: [536/23.1](#); [424/184.1](#), [424/190.1](#), [424/234.1](#), [536/23.7](#)

CLAIMS:

What is claimed is:

1. An isolated DNA which comprises a recombinant nucleotide construct comprising a nucleotide sequence encoding an OMP106 polypeptide, which is an outer membrane polypeptide of Moraxella catarrhalis, and has a molecular weight of about 180 kD to about 230 kD as determined in SDS polyacrylamide gel electrophoresis using rabbit skeletal muscle myosin and E. coli .beta.-galactosidase as the 200 kD and 116.25 kD molecular weight standards, respectively, and which OMP106 polypeptide comprises the amino acid sequence of SEQ ID No: 1.

2. An isolated DNA which comprises a recombinant nucleotide construct comprising a nucleotide sequence encoding the peptide of SEQ ID No: 1.

3. An isolated DNA which comprises a recombinant nucleotide construct encoding an OMP106 polypeptide, which comprises a nucleotide sequence that hybridizes under high stringency conditions to the sequence of SEQ ID No: 4 or the complement of SEQ ID No: 4.

4. The DNA of claim 1, which comprises the sequence of SEQ ID NO:4 or the complement of sequence of SEQ ID NO:4.

5. Plasmid pOMP106X obtainable from E. coli Top10 (pOMP106X), as deposited with the ATCC and assigned accession number 98579.

6. An isolated DNA which comprises the sequence of SEQ ID NO:9 or the complement of sequence of SEQ ID NO:9.

7. An isolated DNA which comprises a recombinant nucleotide construct

comprising nucleotides 218 to 6589 of SEQ ID NO:9 which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:10.

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L1: Entry 21 of 24

File: EPAB

Nov 13, 1997

PUB-NO: WO009741731A1

DOCUMENT-IDENTIFIER: WO 9741731 A1

TITLE: MORAXELLA CATARRHALIS OUTER MEMBRANE PROTEIN-106 POLYPEPTIDE, GENE SEQUENCE AND USES THEREOF

PUBN-DATE: November 13, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
TUCKER, KENNETH	US
PLOSILA, LAURA	US

INT-CL (IPC): A01 N 63/00; A01 N 65/00; A61 K 39/00; A61 K 39/02; A61 K 39/38; A61 K 39/40; A61 K 39/395; C07 H 21/02; C07 H 21/04; C07 K 16/00
EUR-CL (EPC): C07K014/21; C07K016/12

ABSTRACT:

CHG DATE=19990617 STATUS=O>The invention discloses the Moraxella catarrhalis outer membrane protein-106 (OMP106) polypeptide, polypeptides derived therefrom (OMP106-derived polypeptides), nucleotide sequences encoding said polypeptides, and antibodies that specifically bind the OMP106 polypeptide and/or OMP106-derived polypeptides. Also disclosed are immunogenic, prophylactic or therapeutic compositions, including vaccines, comprising OMP106 polypeptide and/or OMP106-derived polypeptides. The invention additionally discloses methods of inducing immune responses to M. catarrhalis and M. catarrhalis OMP106 polypeptides and OMP106-derived polypeptides in animals.

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L1: Entry 22 of 24

File: DWPI

Nov 28, 2002

DERWENT-ACC-NO: 2003-328486

DERWENT-WEEK: 200331

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TITLE: Novel outer membrane polypeptide of *Moraxella catarrhalis*, useful for producing an immune response in an animal, and as ligands to detect antibodies elicited in response to *Moraxella* infections

INVENTOR: PLOSILA, L; TUCKER, K

PRIORITY-DATA: 1997US-0968685 (November 12, 1997), 1996US-0642712 (May 3, 1996), 2001US-0813214 (March 20, 2001)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> US 20020177200 A1	November 28, 2002		051	A61K039/02

INT-CL (IPC): [A61 K 39/02](#); [C07 K 16/12](#); [C12 N 9/00](#)

ABSTRACTED-PUB-NO: US20020177200A

BASIC-ABSTRACT:

NOVELTY - An isolated or substantially pure outer membrane polypeptide of *Moraxella catarrhalis* ([OMP106](#) polypeptide) (I), having a molecular weight of 180-230 kD, a sequence substantially homologous to a sequence (S1) of 43 amino acids defined in the specification and a sequence that is homologous to a sequence (S2), is new.

DETAILED DESCRIPTION - An isolated or substantially pure outer membrane polypeptide of *Moraxella catarrhalis* ([OMP106](#) polypeptide) (I) has a molecular weight of 180-230 kD as determined in sodium dodecyl sulfate (SDS) polyacrylamide gel electrophoresis using rabbit skeletal muscle myosin and *Escherichia coli* beta -galactosidase as the 200 and 116.25 kD molecular weight standards, respectively, comprises a sequence substantially homologous to a sequence (S1) of 43 amino acids defined in the specification; and also a sequence that is homologous to a sequence (S2).

Gly-Thr-Val-Leu-Gly-Gly-Lys (S2)

INDEPENDENT CLAIMS are also included for:

- (1) an isolated antibody (II) that specifically binds (I);
- (2) a peptide fragment (III) of (I), which specifically binds to (III);
- (3) a vaccine (IV) comprising (I) and (III);
- (4) an antigenic composition (V) comprising (I) and (III);

(5) a substantially pure DNA (VI) comprising a nucleotide sequence encoding (I), or a sequence that hybridizes under high stringency conditions to the sequence having 72 or 9542 nucleotides defined in the specification, or their complements;

(6) producing a non-hemagglutinating cultivar of *M. catarrhalis* from a HA *M. catarrhalis* strain or cultivar, by serially passaging a HA *M. catarrhalis* strain or cultivar in static liquid cultures; and

(7) a plasmid pOMP106X obtainable from *E. coli* Top10 (pOMP106X), as deposited with the ATCC and assigned accession number 98579.

ACTIVITY - None given.

MECHANISM OF ACTION - Vaccine; Inducer of immune response.

No supporting data is given.

USE - (I) and (III) are useful for producing an immune response in an animal (claimed), and as ligands to detect antibodies elicited in response to *M. catarrhalis* infections. (I) and (III) are also useful as immunogens for inducing *M. catarrhalis*-specific antibodies. (I) and (III) are further useful as active ingredients in vaccines against *M. catarrhalis* infections. (I) is useful as guide for synthesis of oligonucleotide mixtures which in turn is useful to screen (II) in *M. catarrhalis* genomic libraries. (I) is useful to prepare antibodies. (II) is useful in immunoassays to detect *M. catarrhalis* in biological specimens, and also in passive immunizations against *M. catarrhalis* infections. (II) is also useful to facilitate isolation and purification of (I) and (III), and as probes for identifying clones in expression libraries that have inserts encoding (I) and (III). (II) is also useful to diagnose *M. catarrhalis* infections. (VI) is useful as probes to identify the presence of *M. catarrhalis* in biological specimens by hybridization or polymerase chain reaction amplification, and also to detect other bacteria that might encode a polypeptide related to *M. catarrhalis* OMP106. (I), (II), (III) and (VI) are useful as reagents for clinical medical diagnosis of *M. catarrhalis* infections and for scientific research on the properties of pathogenicity, virulence and infectivity of *M. catarrhalis*, as well as host defense mechanisms.

ABSTRACTED-PUB-NO: US20020177200A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/12

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L1: Entry 24 of 24

File: DWPI

Apr 1, 2004

DERWENT-ACC-NO: 1997-558601

DERWENT-WEEK: 200425

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TITLE: Outer membrane protein, OMP106, of *Moraxella catarrhalis* - used in vaccines for producing immune responses against *M. catarrhalis*

INVENTOR: PLOSILA, L; TUCKER, K

PATENT-ASSIGNEE: ANTEX BIOLOGICS INC (ANTEN)

PRIORITY-DATA: 1996US-0642712 (May 3, 1996)

[Search Selected](#)[Search ALL](#)[Clear](#)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> ES 2202624 T3	April 1, 2004		000	A61K039/095
<input type="checkbox"/> WO 9741731 A1	November 13, 1997	E	078	A01N063/00
<input type="checkbox"/> AU 9731180 A	November 26, 1997		000	
<input type="checkbox"/> ZA 9703809 A	February 25, 1998		074	A61K000/00
<input type="checkbox"/> NO 9805113 A	December 28, 1998		000	C07K000/00
<input type="checkbox"/> EP 900025 A1	March 10, 1999	E	000	
<input type="checkbox"/> SK 9801509 A3	May 7, 1999		000	
<input type="checkbox"/> CZ 9803524 A3	June 16, 1999		000	A61K039/00
<input type="checkbox"/> CN 1223549 A	July 21, 1999		000	A01N063/00
<input type="checkbox"/> BR 9711090 A	August 17, 1999		000	
<input type="checkbox"/> HU 9902695 A2	December 28, 1999		000	
<input type="checkbox"/> NZ 332896 A	May 26, 2000		000	A61K039/40
<input type="checkbox"/> JP 2000510696 W	August 22, 2000		074	C12N015/09
<input type="checkbox"/> AU 723528 B	August 31, 2000		000	
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<input type="checkbox"/> KR 2000010734 A	February 25, 2000		000	A01N063/00
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<input type="checkbox"/> EP 900025 B1	July 2, 2003	E	000	A61K039/095
<input type="checkbox"/> DE 69723254 E	August 7, 2003		000	A61K039/095
TW 541314 A	July 11, 2003		000	C07K014/195

☐ MX 214908 B

June 24, 2003

000 A61K039/095

☐ HU 223004 B1

March 1, 2004

000 A01N063/00

DESIGNATED-STATES: AL AM AU AZ BA BB BG BR BY CA CN CU CZ EE GE GH HU IL IS JP KG
 KP KR KZ LC LK LR LT LV MD MG MK MN MX NO NZ PL RO RU SG SI SK TJ TM TR TT UA UZ VN
 YU AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG AT
 BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE AT BE CH DE DK ES FI FR
 GB GR IE IT LI LT LU LV MC NL PT RO SE

CITED-DOCUMENTS:5.Jnl.Ref; WO 9303761

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
ES 2202624T3	April 28, 1997	1997EP-0926409	
ES 2202624T3		EP 900025	Based on
WO 9741731A1	April 28, 1997	1997WO-US07679	
AU 9731180A	April 28, 1997	1997AU-0031180	
AU 9731180A		WO 9741731	Based on
ZA 9703809A	May 2, 1997	1997ZA-0003809	
NO 9805113A	April 28, 1997	1997WO-US07679	
NO 9805113A	November 2, 1998	1998NO-0005113	
EP 900025A1	April 28, 1997	1997EP-0926409	
EP 900025A1	April 28, 1997	1997WO-US07679	
EP 900025A1		WO 9741731	Based on
SK 9801509A3	April 28, 1997	1997WO-US07679	
SK 9801509A3	April 28, 1997	1998SK-0001509	
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CN 1223549A	April 28, 1997	1997CN-0195990	
BR 9711090A	April 28, 1997	1997BR-0011090	
BR 9711090A	April 28, 1997	1997WO-US07679	
BR 9711090A		WO 9741731	Based on
HU 9902695A2	April 28, 1997	1997WO-US07679	
HU 9902695A2	April 28, 1997	1999HU-0002695	
HU 9902695A2		WO 9741731	Based on
NZ 332896A	April 28, 1997	1997NZ-0332896	
NZ 332896A	April 28, 1997	1997WO-US07679	
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JP2000510696W	April 28, 1997	1997JP-0540156	
JP2000510696W	April 28, 1997	1997WO-US07679	
JP2000510696W		WO 9741731	Based on
AU 723528B	April 28, 1997	1997AU-0031180	
AU 723528B		AU 9731180	Previous Publ.
AU 723528B		WO 9741731	Based on
MX 9809132A1	November 3, 1998	1998MX-0009132	

KR2000010734A	April 28, 1997	1997WO-US07679	
KR2000010734A	November 3, 1998	1998KR-0708845	
KR2000010734A		WO 9741731	Based on
CA 2253636C	April 28, 1997	1997CA-2253636	
CA 2253636C	April 28, 1997	1997WO-US07679	
CA 2253636C		WO 9741731	Based on
EP 900025B1	April 28, 1997	1997EP-0926409	
EP 900025B1	April 28, 1997	1997WO-US07679	
EP 900025B1		WO 9741731	Based on
DE 69723254E	April 28, 1997	1997DE-0623254	
DE 69723254E	April 28, 1997	1997EP-0926409	
DE 69723254E	April 28, 1997	1997WO-US07679	
DE 69723254E		EP 900025	Based on
DE 69723254E		WO 9741731	Based on
TW 541314A	May 1, 1997	1997TW-0105809	
MX 214908B	April 28, 1997	1997WO-US07679	
MX 214908B	November 3, 1998	1998MX-0009132	
HU 223004B1	April 28, 1997	1997WO-US07679	
HU 223004B1	April 28, 1997	1999HU-0002695	
HU 223004B1		WO 9741731	Based on

A , CA 2253636 C INT-CL (IPC): A01 N 63/00; A01 N 65/00; A61 K 0/00; A61 K 39/00; A61 K 39/02; A61 K 39/095; A61 K 39/38; A61 K 39/395; A61 K 39/40; C07 H 21/02; C07 H 21/04; C07 K 0/00; C07 K 14/195; C07 K 14/22; C07 K 16/00; C07 K 16/12; C12 N 1/36; C12 N 15/09; C12 N 15/31; C12 P 21/02; C12 Q 1/68; G01 N 33/53; C12 N 15/09; C12 R 1:01

RELATED-ACC-NO: 2001-281002;2003-328486

ABSTRACTED-PUB-NO: WO 9741731A
BASIC-ABSTRACT:

A novel isolated or substantially pure OMP106 polypeptide, is an outer membrane polypeptide of *Moraxella catarrhalis*, and has a molecular weight of approx. 180-230 kD, as determined in SDS-PAGE using rabbit skeletal muscle myosin and *E. coli* beta-galactosidase as the 200 kD and 116.25 kD molecular weight standards, respectively.

USE - The OMP106 polypeptide, and the peptide fragments of (2) can be used in vaccines and antigenic compositions. They can also be used for producing an immune response in an animal against *M. catarrhalis* (all claimed).

ABSTRACTED-PUB-NO: WO 9741731A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/9

DERWENT-CLASS: B04 D16
CPI-CODES: B04-E03; B04-G01; B04-N04; D05-H07; D05-H11; D05-H12A; D05-H17A5; D05-H17A6;

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☐ 1. Document ID: US 20040131625 A1**Using default format because multiple data bases are involved.**

L1: Entry 1 of 24

File: PGPB

Jul 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040131625

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040131625 A1

TITLE: Vaccine composition

PUBLICATION-DATE: July 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Berthet, Francois-Xavier Jacques	Rixensart		BE	
Lobet, Yves	Rixensart		BE	
Poolman, Jan	Rixensart		BE	
Verlant, Vincent Georges Christian Louis	Rixensart		BE	

US-CL-CURRENT: 424/184.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw De
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☐ 2. Document ID: US 20040126389 A1

L1: Entry 2 of 24

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126389

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126389 A1

TITLE: Vaccine composition

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Berthet, Francois-Xavier Jacques	Rixensart		BE	
Dalemans, Wilfried L J	Rixensart		BE	
Denoel, Philippe	Rixensart		BE	
Dequesne, Guy	Rixensart		BE	

Feron, Chriatiane	Rixensart	BE
Garcon, Nathalie	Rixensart	BE
Lobet, Yves	Rixensart	BE
Poolman, Jan	Rixensart	BE
Thiry, Georges	Rixensart	BE
Thonnard, Joelle	Rixensart	BE
Voet, Pierre	Rixensart	BE

US-CL-CURRENT: 424/190.1; 424/236.1, 424/244.1, 424/256.1, 514/54

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw De
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☐ 3. Document ID: US 20040126359 A1

L1: Entry 3 of 24

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126359

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126359 A1

TITLE: Hedgehog

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lamb, Jonathan Robert	Edinburgh		GB	
Hoyne, Gerard Francis	Canberra		AU	
Dallman, Margaret Jane	London		GB	
Champion, Brian Robert	Cambridge		GB	

US-CL-CURRENT: 424/85.2; 514/12

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw De
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☐ 4. Document ID: US 20040116665 A1

L1: Entry 4 of 24

File: PGPB

Jun 17, 2004

PGPUB-DOCUMENT-NUMBER: 20040116665

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040116665 A1

TITLE: Vaccine composition

PUBLICATION-DATE: June 17, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
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h e b b g e e e f e c h f e f b e

Berthet, Francois-Xavier Jacques	Rixensart	BE
Denoel, Philippe	Rixensart	BE
Neyt, Cecile Anne	Rixensart	BE
Poolman, Jan	Rixensart	BE
Thonnard, Joelle	Rixensart	BE

US-CL-CURRENT: 530/350

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw. De
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☐ 5. Document ID: US 20040081662 A1

L1: Entry 5 of 24

File: PGPB

Apr 29, 2004

PGPUB-DOCUMENT-NUMBER: 20040081662
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040081662 A1

TITLE: Vaccine

PUBLICATION-DATE: April 29, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hermard, Philippe	Rixensart		BE	
Laferriere, Craig A.J.	Rixensart		BE	
Lobet, Yves	Rixensart		BE	
Poolman, Jan	Rixensart		BE	

US-CL-CURRENT: 424/190.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw. De
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☐ 6. Document ID: US 20040067238 A1

L1: Entry 6 of 24

File: PGPB

Apr 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040067238
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040067238 A1

TITLE: Novel compounds

PUBLICATION-DATE: April 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 424/190.1

h e b b g e e e f e c h f e f b e

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 7. Document ID: US 20040059090 A1

L1: Entry 7 of 24

File: PGPB

Mar 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040059090
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040059090 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 25, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 530/350; 424/190.1, 435/252.3, 435/320.1, 435/69.3, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 8. Document ID: US 20040058863 A1

L1: Entry 8 of 24

File: PGPB

Mar 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040058863
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040058863 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 25, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 514/12; 435/320.1, 435/325, 435/69.1, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 9. Document ID: US 20040049150 A1

L1: Entry 9 of 24

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040049150
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040049150 A1

h e b b g e e e f e c h f e f b e

TITLE: Vaccines

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Dalton, Colin Cave	Rixensart		BE	
Easeman, Richard Lewis	Brentford		GB	
Garcon, Nathalie	Rixensart		BE	

US-CL-CURRENT: 604/46

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 10. Document ID: US 20040047875 A1

L1: Entry 10 of 24

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040047875

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040047875 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 424/185.1; 435/320.1, 435/325, 435/69.1, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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Terms	Documents
OMP106	24

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Search Results - Record(s) 1 through 10 of 24 returned.

☐ 1. Document ID: US 20040131625 A1

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L1: Entry 1 of 24

File: PGPB

Jul 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040131625
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040131625 A1

TITLE: Vaccine composition

PUBLICATION-DATE: July 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Berthet, Francois-Xavier Jacques	Rixensart		BE	
Lobet, Yves	Rixensart		BE	
Poolman, Jan	Rixensart		BE	
Verlant, Vincent Georges Christian Louis	Rixensart		BE	

US-CL-CURRENT: 424/184.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KOMC	Draw. De
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☐ 2. Document ID: US 20040126389 A1

L1: Entry 2 of 24

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126389
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040126389 A1

TITLE: Vaccine composition

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Berthet, Francois-Xavier Jacques	Rixensart		BE	
Dalemans, Wilfried L J	Rixensart		BE	
Denoel, Philippe	Rixensart		BE	
Dequesne, Guy	Rixensart		BE	

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Feron, Chriatiane	Rixensart	BE
Garcon, Nathalie	Rixensart	BE
Lobet, Yves	Rixensart	BE
Poolman, Jan	Rixensart	BE
Thiry, Georges	Rixensart	BE
Thonnard, Joelle	Rixensart	BE
Voet, Pierre	Rixensart	BE

US-CL-CURRENT: 424/190.1; 424/236.1, 424/244.1, 424/256.1, 514/54

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 3. Document ID: US 20040126359 A1

L1: Entry 3 of 24

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126359

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126359 A1

TITLE: Hedgehog

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lamb, Jonathan Robert	Edinburgh		GB	
Hoyne, Gerard Francis	Canberra		AU	
Dallman, Margaret Jane	London		GB	
Champion, Brian Robert	Cambridge		GB	

US-CL-CURRENT: 424/85.2; 514/12

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 4. Document ID: US 20040116665 A1

L1: Entry 4 of 24

File: PGPB

Jun 17, 2004

PGPUB-DOCUMENT-NUMBER: 20040116665

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040116665 A1

TITLE: Vaccine composition

PUBLICATION-DATE: June 17, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
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h e b b g e e e f e c h f e f b e

Berthet, Francois-Xavier Jacques	Rixensart	BE
Denoel, Philippe	Rixensart	BE
Neyt, Cecile Anne	Rixensart	BE
Poolman, Jan	Rixensart	BE
Thonnard, Joelle	Rixensart	BE

US-CL-CURRENT: 530/350

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw De
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☐ 5. Document ID: US 20040081662 A1

L1: Entry 5 of 24

File: PGPB

Apr 29, 2004

PGPUB-DOCUMENT-NUMBER: 20040081662

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040081662 A1

TITLE: Vaccine

PUBLICATION-DATE: April 29, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hermand, Philippe	Rixensart		BE	
Laferriere, Craig A.J.	Rixensart		BE	
Lobet, Yves	Rixensart		BE	
Poolman, Jan	Rixensart		BE	

US-CL-CURRENT: 424/190.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw De
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☐ 6. Document ID: US 20040067238 A1

L1: Entry 6 of 24

File: PGPB

Apr 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040067238

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040067238 A1

TITLE: Novel compounds

PUBLICATION-DATE: April 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 424/190.1

h e b b g e e e f e c h f e f b e

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 7. Document ID: US 20040059090 A1

L1: Entry 7 of 24

File: PGPB

Mar 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040059090

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040059090 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 25, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 530/350; 424/190.1, 435/252.3, 435/320.1, 435/69.3, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 8. Document ID: US 20040058863 A1

L1: Entry 8 of 24

File: PGPB

Mar 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040058863

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040058863 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 25, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 514/12; 435/320.1, 435/325, 435/69.1, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 9. Document ID: US 20040049150 A1

L1: Entry 9 of 24

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040049150

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040049150 A1

TITLE: Vaccines

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Dalton, Colin Cave	Rixensart		BE	
Easeman, Richard Lewis	Brentford		GB	
Garcon, Nathalie	Rixensart		BE	

US-CL-CURRENT: 604/46

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMNC	Draw De
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☐ 10. Document ID: US 20040047875 A1

L1: Entry 10 of 24

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040047875

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040047875 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 424/185.1; 435/320.1, 435/325, 435/69.1, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMNC	Draw De
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Search Results - Record(s) 21 through 24 of 24 returned.

☐ 21. Document ID: WO 9741731 A1

Using default format because multiple data bases are involved.

L1: Entry 21 of 24

File: EPAB

Nov 13, 1997

PUB-NO: WO009741731A1

DOCUMENT-IDENTIFIER: WO 9741731 A1

TITLE: MORAXELLA CATARRHALIS OUTER MEMBRANE PROTEIN-106 POLYPEPTIDE, GENE SEQUENCE AND USES THEREOF

PUBN-DATE: November 13, 1997

INVENTOR-INFORMATION:

NAME

COUNTRY

TUCKER, KENNETH

US

PLOSILA, LAURA

US

INT-CL (IPC): A01 N 63/00; A01 N 65/00; A61 K 39/00; A61 K 39/02; A61 K 39/38; A61 K 39/40; A61 K 39/395; C07 H 21/02; C07 H 21/04; C07 K 16/00
 EUR-CL (EPC): C07K014/21; C07K016/12

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw De
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☐ 22. Document ID: US 20020177200 A1

L1: Entry 22 of 24

File: DWPI

Nov 28, 2002

DERWENT-ACC-NO: 2003-328486

DERWENT-WEEK: 200331

COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Novel outer membrane polypeptide of Moraxella catarrhalis, useful for producing an immune response in an animal, and as ligands to detect antibodies elicited in response to Moraxella infections

INVENTOR: PLOSILA, L; TUCKER, K

PRIORITY-DATA: 1997US-0968685 (November 12, 1997), 1996US-0642712 (May 3, 1996), 2001US-0813214 (March 20, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020177200 A1	November 28, 2002		051	A61K039/02

INT-CL (IPC): A61 K 39/02; C07 K 16/12; C12 N 9/00

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw De
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☐ 23. Document ID: US 6214981 B1

L1: Entry 23 of 24

File: DWPI

Apr 10, 2001

DERWENT-ACC-NO: 2001-281002

DERWENT-WEEK: 200331

COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Novel nucleotide sequences encoding *Moraxella catarrhalis* outer membrane protein-106 polypeptide, useful for diagnosis of bacterial infections and as vaccine against *Moraxella catarrhalis* infection of mammals

INVENTOR: PLOSILA, L; TILLMAN, U F ; TUCKER, K

PRIORITY-DATA: 1997US-0968685 (November 12, 1997); 1996US-0642712 (May 3, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>US 6214981 B1</u>	April 10, 2001		049	C07H021/02

INT-CL (IPC): C07 H 21/02

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw De
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☐ 24. Document ID: ES 2202624 T3, WO 9741731 A1, AU 9731180 A, ZA 9703809 A, NO 9805113 A, EP 900025 A1, SK 9801509 A3, CZ 9803524 A3, CN 1223549 A, BR 9711090 A, HU 9902695 A2, NZ 332896 A, JP 2000510696 W, AU 723528 B, MX 9809132 A1, KR 2000010734 A, CA 2253636 C, EP 900025 B1, DE 69723254 E, TW 541314 A, MX 214908 B, HU 223004 B1

L1: Entry 24 of 24

File: DWPI

Apr 1, 2004

DERWENT-ACC-NO: 1997-558601

DERWENT-WEEK: 200425

COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Outer membrane protein, OMP106, of *Moraxella catarrhalis* - used in vaccines for producing immune responses against *M. catarrhalis*

INVENTOR: PLOSILA, L; TUCKER, K

PRIORITY-DATA: 1996US-0642712 (May 3, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>ES 2202624 T3</u>	April 1, 2004		000	A61K039/095
<u>WO 9741731 A1</u>	November 13, 1997	E	078	A01N063/00
<u>AU 9731180 A</u>	November 26, 1997		000	
<u>ZA 9703809 A</u>	February 25, 1998		074	A61K000/00

<u>NO 9805113 A</u>	December 28, 1998		000	C07K000/00
<u>EP 900025 A1</u>	March 10, 1999	E	000	
<u>SK 9801509 A3</u>	May 7, 1999		000	
<u>CZ 9803524 A3</u>	June 16, 1999		000	A61K039/00
<u>CN 1223549 A</u>	July 21, 1999		000	A01N063/00
<u>BR 9711090 A</u>	August 17, 1999		000	
<u>HU 9902695 A2</u>	December 28, 1999		000	
<u>NZ 332896 A</u>	May 26, 2000		000	A61K039/40
<u>JP 2000510696 W</u>	August 22, 2000		074	C12N015/09
<u>AU 723528 B</u>	August 31, 2000		000	
<u>MX 9809132 A1</u>	March 1, 1999		000	A01N063/00
<u>KR 2000010734 A</u>	February 25, 2000		000	A01N063/00
<u>CA 2253636 C</u>	April 22, 2003	E	000	C12N015/31
<u>EP 900025 B1</u>	July 2, 2003	E	000	A61K039/095
<u>DE 69723254 E</u>	August 7, 2003		000	A61K039/095
<u>TW 541314 A</u>	July 11, 2003		000	C07K014/195
<u>MX 214908 B</u>	June 24, 2003		000	A61K039/095
<u>HU 223004 B1</u>	March 1, 2004		000	A01N063/00

A , CA 2253636 C INT-CL (IPC): A01 N 63/00; A01 N 65/00; A61 K 0/00; A61 K 39/00; A61 K 39/02; A61 K 39/095; A61 K 39/38; A61 K 39/395; A61 K 39/40; C07 H 21/02; C07 H 21/04; C07 K 0/00; C07 K 14/195; C07 K 14/22; C07 K 16/00; C07 K 16/12; C12 N 1/36; C12 N 15/09; C12 N 15/31; C12 P 21/02; C12 Q 1/68; G01 N 33/53; C12 N 15/09; C12 R 1:01

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Draw Data
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Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs	Generate OACS
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Terms	Documents
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Search Results - Record(s) 1 through 5 of 5 returned.

☐ 1. Document ID: US 20030235592 A1

Using default format because multiple data bases are involved.

L3: Entry 1 of 5

File: PGPB

Dec 25, 2003

PGPUB-DOCUMENT-NUMBER: 20030235592

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030235592 A1

TITLE: Moraxella catarrhalis protein, gene sequence and uses thereof

PUBLICATION-DATE: December 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tucker, Kenneth	Germantown	MD	US	
Tillmann, Ulrich F.	Olney	MD	US	

US-CL-CURRENT: 424/190.1; 435/252.3, 435/320.1, 435/69.3, 530/350, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw D
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☐ 2. Document ID: US 20020177200 A1

L3: Entry 2 of 5

File: PGPB

Nov 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020177200

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020177200 A1

TITLE: Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof

PUBLICATION-DATE: November 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tucker, Kenneth	Frederick	MD	US	
Plosila, Laura	Cary	NC	US	

US-CL-CURRENT: 435/183; 424/190.1, 424/251.1, 530/388.26

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 3. Document ID: US 6541616 B1

L3: Entry 3 of 5

File: USPT

Apr 1, 2003

US-PAT-NO: 6541616

DOCUMENT-IDENTIFIER: US 6541616 B1

TITLE: Moraxella catarrhalis protein, gene sequence and uses thereof

DATE-ISSUED: April 1, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tucker; Kenneth	Germantown	MD		
Tillmann; Ulrich F.	Olney	MD		

US-CL-CURRENT: 536/23.1; 435/320.1, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 4. Document ID: US 6214981 B1

L3: Entry 4 of 5

File: USPT

Apr 10, 2001

US-PAT-NO: 6214981

DOCUMENT-IDENTIFIER: US 6214981 B1

TITLE: Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tucker; Kenneth	Frederick	MD		
Plosila; Laura	Cary	NC		
Tillman; Ulrich F.	Olney	MD		

US-CL-CURRENT: 536/23.1; 424/184.1, 424/190.1, 424/234.1, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 5. Document ID: US 6214981 B1

L3: Entry 5 of 5

File: DWPI

Apr 10, 2001

DERWENT-ACC-NO: 2001-281002

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DERWENT-WEEK: 200331

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TITLE: Novel nucleotide sequences encoding Moraxella catarrhalis outer membrane protein-106 polypeptide, useful for diagnosis of bacterial infections and as vaccine against Moraxella catarrhalis infection of mammals

INVENTOR: PLOSILA, L; TILLMAN, U F ; TUCKER, K

PRIORITY-DATA: 1997US-0968685 (November 12, 1997), 1996US-0642712 (May 3, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6214981 B1	April 10, 2001		049	C07H021/02

INT-CL (IPC): C07 H 21/02

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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Search Results - Record(s) 1 through 10 of 24 returned.

☐ 1. Document ID: US 20040131625 A1

Using default format because multiple data bases are involved.

L1: Entry 1 of 24

File: PGPB

Jul 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040131625

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040131625 A1

TITLE: Vaccine composition

PUBLICATION-DATE: July 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Berthet, Francois-Xavier Jacques	Rixensart		BE	
Lobet, Yves	Rixensart		BE	
Poolman, Jan	Rixensart		BE	
Verlant, Vincent Georges Christian Louis	Rixensart		BE	

US-CL-CURRENT: 424/184.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawn De
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☐ 2. Document ID: US 20040126389 A1

L1: Entry 2 of 24

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126389

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126389 A1

TITLE: Vaccine composition

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Berthet, Francois-Xavier Jacques	Rixensart		BE	
Dalemans, Wilfried L J	Rixensart		BE	
Denoel, Philippe	Rixensart		BE	
Dequesne, Guy	Rixensart		BE	

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Feron, Chriatiane	Rixensart	BE
Garcon, Nathalie	Rixensart	BE
Lobet, Yves	Rixensart	BE
Poolman, Jan	Rixensart	BE
Thiry, Georges	Rixensart	BE
Thonnard, Joelle	Rixensart	BE
Voet, Pierre	Rixensart	BE

US-CL-CURRENT: 424/190.1; 424/236.1, 424/244.1, 424/256.1, 514/54

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. De
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☐ 3. Document ID: US 20040126359 A1

L1: Entry 3 of 24

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126359

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126359 A1

TITLE: Hedgehog

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lamb, Jonathan Robert	Edinburgh		GB	
Hoyne, Gerard Francis	Canberra		AU	
Dallman, Margaret Jane	London		GB	
Champion, Brian Robert	Cambridge		GB	

US-CL-CURRENT: 424/85.2; 514/12

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. De
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☐ 4. Document ID: US 20040116665 A1

L1: Entry 4 of 24

File: PGPB

Jun 17, 2004

PGPUB-DOCUMENT-NUMBER: 20040116665

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040116665 A1

TITLE: Vaccine composition

PUBLICATION-DATE: June 17, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
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h e b b g e e e f e c h f e f b e

Berthet, Francois-Xavier Jacques	Rixensart	BE
Denoel, Philippe	Rixensart	BE
Neyt, Cecile Anne	Rixensart	BE
Poolman, Jan	Rixensart	BE
Thonnard, Joelle	Rixensart	BE

US-CL-CURRENT: 530/350

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 5. Document ID: US 20040081662 A1

L1: Entry 5 of 24

File: PGPB

Apr 29, 2004

PGPUB-DOCUMENT-NUMBER: 20040081662

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040081662 A1

TITLE: Vaccine

PUBLICATION-DATE: April 29, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hermand, Philippe	Rixensart		BE	
Laferriere, Craig A.J.	Rixensart		BE	
Lobet, Yves	Rixensart		BE	
Poolman, Jan	Rixensart		BE	

US-CL-CURRENT: 424/190.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 6. Document ID: US 20040067238 A1

L1: Entry 6 of 24

File: PGPB

Apr 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040067238

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040067238 A1

TITLE: Novel compounds

PUBLICATION-DATE: April 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 424/190.1

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw De
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☐ 7. Document ID: US 20040059090 A1

L1: Entry 7 of 24

File: PGPB

Mar 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040059090
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040059090 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 25, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 530/350; 424/190.1, 435/252.3, 435/320.1, 435/69.3, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw De
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☐ 8. Document ID: US 20040058863 A1

L1: Entry 8 of 24

File: PGPB

Mar 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040058863
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040058863 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 25, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 514/12; 435/320.1, 435/325, 435/69.1, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw De
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☐ 9. Document ID: US 20040049150 A1

L1: Entry 9 of 24

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040049150
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040049150 A1

h e b b g e e e f e c h f e f b e

TITLE: Vaccines

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Dalton, Colin Cave	Rixensart		BE	
Easeman, Richard Lewis	Bréntford		GB	
Garcon, Nathalie	Rixensart		BE	

US-CL-CURRENT: 604/46

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 10. Document ID: US 20040047875 A1

L1: Entry 10 of 24

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040047875

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040047875 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 424/185.1; 435/320.1, 435/325, 435/69.1, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 11. Document ID: US 20040043456 A1

Using default format because multiple data bases are involved.

L1: Entry 11 of 24

File: PGPB

Mar 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040043456

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040043456 A1

TITLE: Novel compounds

PUBLICATION-DATE: March 4, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 435/69.7; 435/320.1, 435/325, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawn De
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☐ 12. Document ID: US 20040039169 A1

L1: Entry 12 of 24

File: PGPB

Feb 26, 2004

PGPUB-DOCUMENT-NUMBER: 20040039169

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040039169 A1

TITLE: Haemophilus Influenzae basb202 polypeptide, production, vaccine and diagnostic use

PUBLICATION-DATE: February 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thornnard, Joelle A	Rixensart		BE	

US-CL-CURRENT: 530/350

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawn De
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☐ 13. Document ID: US 20040022803 A1

L1: Entry 13 of 24

File: PGPB

Feb 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040022803

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040022803 A1

TITLE: Base205 polypeptides and polynucleotides therefor

PUBLICATION-DATE: February 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thonnard, Joelle	Rixensart		BE	

US-CL-CURRENT: 424/190.1; 435/252.3, 435/320.1, 435/69.1, 530/395, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw De
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☐ 14. Document ID: US 20040013695 A1

L1: Entry 14 of 24

File: PGPB

Jan 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040013695

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040013695 A1

TITLE: Oral solid dose vaccine

PUBLICATION-DATE: January 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Vande-Velde, Vincent	Rixensart		BE	

US-CL-CURRENT: 424/400; 424/600

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw De
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☐ 15. Document ID: US 20030235592 A1

L1: Entry 15 of 24

File: PGPB

Dec 25, 2003

PGPUB-DOCUMENT-NUMBER: 20030235592

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030235592 A1

TITLE: Moraxella catarrhalis protein, gene sequence and uses thereof

PUBLICATION-DATE: December 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tucker, Kenneth	Germantown	MD	US	
Tillmann, Ulrich F.	Olney	MD	US	

US-CL-CURRENT: 424/190.1; 435/252.3, 435/320.1, 435/69.3, 530/350, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 16. Document ID: US 20030147922 A1

L1: Entry 16 of 24

File: PGPB

Aug 7, 2003

PGPUB-DOCUMENT-NUMBER: 20030147922

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030147922 A1

TITLE: Vaccine against streptococcus pneumoniae capsular polysaccharides

PUBLICATION-DATE: August 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Capiau, Carine	Rixensart		BE	
Deschamps, Marguerite	Rixensart		BE	
Desmons, Pierre Michel	Rixensart		BE	
Laferriere, Craig Antonyjoseph	Rixensart		BE	
Poolman, Jan	Rixensart		BE	
Prieels, Jean-Paul	Rixensart		BE	

US-CL-CURRENT: 424/244.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 17. Document ID: US 20030096370 A1

L1: Entry 17 of 24

File: PGPB

May 22, 2003

PGPUB-DOCUMENT-NUMBER: 20030096370

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030096370 A1

TITLE: Haemophilus influenza outer membrane protein and use thereof in vaccination

PUBLICATION-DATE: May 22, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
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h e b b cg b cc e

Berthet, Francois-Xavier Jacques	Barcelona	ES
Denoel, Philippe	Rixensart	BE
Poolman, Jan	Rixensart	BE
Thonnard, Joelle	Rixensart	BE

US-CL-CURRENT: [435/69.3](#); [424/190.1](#), [435/252.3](#), [435/320.1](#), [530/350](#), [536/23.7](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 18. Document ID: US 20020177200 A1

L1: Entry 18 of 24

File: PGPB

Nov 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020177200
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020177200 A1

TITLE: Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof

PUBLICATION-DATE: November 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tucker, Kenneth	Frederick	MD	US	
Plosila, Laura	Cary	NC	US	

US-CL-CURRENT: [435/183](#); [424/190.1](#), [424/251.1](#), [530/388.26](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 19. Document ID: US 6541616 B1

L1: Entry 19 of 24

File: USPT

Apr 1, 2003

US-PAT-NO: 6541616
DOCUMENT-IDENTIFIER: US 6541616 B1

TITLE: Moraxella catarrhalis protein, gene sequence and uses thereof

DATE-ISSUED: April 1, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tucker; Kenneth	Germantown	MD		
Tillmann; Ulrich F.	Olney	MD		

US-CL-CURRENT: [536/23.1](#); [435/320.1](#), [536/23.7](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw De
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☐ 20. Document ID: US 6214981 B1

L1: Entry 20 of 24

File: USPT

Apr 10, 2001

US-PAT-NO: 6214981

DOCUMENT-IDENTIFIER: US 6214981 B1

TITLE: Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tucker; Kenneth	Frederick	MD		
Plosila; Laura	Cary	NC		
Tillman; Ulrich F.	Olney	MD		

US-CL-CURRENT: 536/23.1; 424/184.1, 424/190.1, 424/234.1, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw De
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File: PGPB

Dec 25, 2003

PGPUB-DOCUMENT-NUMBER: 20030235592
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030235592 A1

TITLE: Moraxella catarrhalis protein, gene sequence and uses thereof

PUBLICATION-DATE: December 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tucker, Kenneth	Germantown	MD	US	
Tillmann, Ulrich F.	Olney	MD	US	

US-CL-CURRENT: [424/190.1](#); [435/252.3](#), [435/320.1](#), [435/69.3](#), [530/350](#), [536/23.7](#)

CLAIMS:

What is claimed is:

1. An isolated or substantially purified outer membrane protein designated "OMP21" of Moraxella catarrhalis strain, said protein: a) encoded by a nucleic acid comprising SEQ ID NO.: 6; or b) comprising an amino acid sequence of SEQ ID NO.: 7; or c) comprising an amino acid sequence of SEQ ID NO.: 1 and having a molecular weight of about 16 kD to about 20 kD, as determined by reducing SDS-PAGE using trypsin inhibitor and carbonic anhydrase, respectively as 21.5 kD and 31 kD molecular weight standards; or a fragment of said protein that specifically binds to an antibody that specifically binds to OMP21 comprising an amino acid sequence of SEQ ID NO.: 7.
2. The protein of claim 1, comprising the amino acid sequence of SEQ ID NO.: 7.
3. The protein of claim 1, wherein the strain of Moraxella catarrhalis is a virulent clinical isolate.
4. The protein of claim 1, wherein the OMP21 is at least 70 wt % purified.
5. The protein of claim 1, recognizable by an antibody preparation that specifically binds to a peptide having the amino acid sequence of SEQ ID NO.: 1 or 7.
6. A peptide fragment of the OMP21 protein of claim 1, which specifically binds to an antibody that specifically binds to an OMP21 comprising an amino acid sequence of SEQ ID NO.: 1.
7. An isolated protein of claim 1, further comprising one or more heterologous polypeptides fused to the C-terminal or N-terminal or an internal segment of said OMP21.

8. An isolated protein of a *Moraxella catarrhalis* strain, having a molecular weight of about 16 kD to about 20 kD, as determined by reducing SDS-PAGE using trypsin inhibitor and carbonic anhydrase, respectively as 21.5 kD and 31 kD molecular weight standards, said protein: a) encoded by a nucleic acid sequence which hybridizes at 68 degrees C. in 0.5M NaHPO.sub.4 (pH 7.2)/1 mM EDTA/7% SDS to a nucleic acid of SEQ ID NO.: 6 or a nucleic acid sequence encoding the amino acid sequence of SEQ ID NO.: 7; and b) eliciting an immune response to *M. catarrhalis* when administered to an animal.

9. A pharmaceutical composition, comprising an effective amount of "OMP21" an isolated protein of *Moraxella catarrhalis* designated "OMP21", said protein: a) encoded by a nucleic acid comprising SEQ ID NO.: 6; or b) comprising an amino acid sequence of SEQ ID NO.: 7; or c) comprising an amino acid sequence of SEQ ID NO.: 1 and having a molecular weight of about 16 kD to about 20 kD, as determined by reducing SDS-PAGE using trypsin inhibitor and carbonic anhydrase, respectively as 21.5 kD and 31 kD molecular weight standards or a fragment of said protein that specifically binds to an antibody that specifically binds to OMP21 comprising an amino acid sequence of SEQ ID NO.: 7; and optionally one or more adjuvants, and one or more pharmaceutically acceptable carriers or diluents.

10. The pharmaceutical composition of claim 9, further comprising an attenuated or inactivated cultivar of *M. catarrhalis* wherein the cultivar has been genetically manipulated to have the nucleic acid encoding OMP21 deleted and therefore non-transcribed.

11. The pharmaceutical composition of claim 9, further comprising an attenuated or inactivated cultivar of *M. catarrhalis* wherein the cultivar has been genetically manipulated to have the nucleic acid encoding OMP21 and OMP 106 deleted and therefore non-transcribed.

12. The pharmaceutical composition of claim 9, wherein the OMP21 is combined with, fused to, or conjugated to one or more other components, selected from the group consisting of lipids, carbohydrates, proteins, an attenuated whole organism, and an inactivated whole organism.

13. The pharmaceutical composition of claim 12, wherein the lipid is a phospholipid.

14. The pharmaceutical composition of claim 12, wherein the carbohydrate is a lipopolysaccharide.

15. The pharmaceutical composition of claim 12, wherein the whole organism is selected from the group consisting of *Moraxella*, *Neisseria*, *Pseudomonas*, *Streptococcus*, and *Haemophilus*.

16. The pharmaceutical composition of claim 12, wherein OMP21 the component is combined with an other component, and wherein the other component is a protein or a carbohydrate from *Moraxella*, *Neisseria*, *Pseudomonas*, *Streptococcus*, or *Haemophilus*.

17. The pharmaceutical composition of claim 12, wherein the other component is OMP106.

18. The pharmaceutical composition of claim 9, formulated as a microparticle, capsule or liposome preparation.

19. An immunogenic composition, comprising an effective amount of an isolated OMP21 protein of *Moraxella catarrhalis*, said protein: a) encoded by a nucleic acid

comprising SEQ ID NO.: 6; or b) comprising an amino acid sequence of SEQ ID NO.: 7; or c) comprising an amino acid sequence of SEQ ID NO.: 1 and having a molecular weight of about 16 kD to about 20 kD, as determined by reducing SDS-PAGE using trypsin inhibitor and carbonic anhydrase, respectively as 21.5 kD and 31 kD molecular weight standards or a fragment of said protein that specifically binds to an antibody that specifically binds to OMP21 comprising an amino acid sequence of SEQ ID NO.: 7; and one or more adjuvants, and optionally one or more pharmaceutically acceptable carriers or diluents, wherein said immunogenic composition produces an immune response when administered to a host.

20. The immunogenic composition of claim 19, further comprising an attenuated or inactivated cultivar of *M. catarrhalis* wherein the cultivar has been genetically manipulated to have the nucleic acid encoding OMP21 deleted and therefore non-transcribed.

21. The immunogenic composition of claim 19, further comprising an attenuated or inactivated cultivar of *M. catarrhalis* wherein the cultivar has been genetically manipulated to have the nucleic acid encoding for OMP21 and OMP106 deleted and therefore non-transcribed.

22. The immunogenic composition of claim 19, wherein the OMP21 is combined with, fused to, or conjugated to one or more other components, selected from the group consisting of lipids, carbohydrates, proteins, an attenuated whole organism and an inactivated whole organism.

23. The immunogenic composition of claim 22, wherein the whole organism is selected from the group consisting of *Moraxella*, *Neisseria*, *Pseudomonas*, *Streptococcus*, and *Haemophilus*.

24. The immunogenic composition of claim 19, wherein the OMP21 is combined with an other component and wherein the other component is a protein or a carbohydrate from *Moraxella*, *Neisseria*, *Pseudomonas*, *Streptococcus*, or *Haemophilus*.

25. The immunogenic composition of claim 22, wherein the other component is OMP106.

26. The immunogenic composition of claim 19, formulated as a microparticle, capsule, or liposome preparation.

27. A method of producing an immune response in an animal comprising administering to said animal an effective amount of the pharmaceutical composition of claim 9 or the immunogenic composition of claim 19.

28. A method of preventing, treating or ameliorating a disorder related to *M. catarrhalis* in an animal in need of such treatment comprising administering an effective amount of the pharmaceutical composition of claim 9 or the immunogenic composition of claim 19.

29. An attenuated or inactivated cultivar of *M. catarrhalis* wherein the cultivar has been genetically manipulated to have the nucleic acid encoding the OMP21 protein of claim 1 deleted and therefore non-transcribed.

30. The attenuated or inactivated cultivar of claim 29, wherein the cultivar is non-adherent.

31. An attenuated or inactivated cultivar of *M. catarrhalis* wherein the cultivar has been genetically manipulated to have the nucleic acid encoding the OMP21 protein of claim 1 and OMP 106 deleted and therefore non-transcribed.

32. Antisera raised against the pharmaceutical composition of claim 9 or the immunogenic composition of claim 19.
33. An isolated antibody obtainable from the antisera of claim 32 that specifically binds one or more of the components present in the pharmaceutical composition or immunogenic composition.
34. An isolated antibody that specifically binds the OMP21 protein of claim 1.
35. The isolated antibody of claim 31, which is a cytotoxic antibody that mediates complement killing of *Moraxella catarrhalis*.
36. The isolated antibody of claim 34, which is a cytotoxic antibody that mediates complement killing of *Moraxella catarrhalis*.
37. A method for detecting anti-M. *catarrhalis* antibodies in a test sample comprising the steps of: a) contacting a test sample with the pharmaceutical composition of claim 9 or the immunogenic composition of claim 19 to form, in the presence of anti-M. *catarrhalis* antibodies, M. *catarrhalis* antigen: anti-M. *catarrhalis* antibody immunocomplexes, and b) detecting any said immunocomplexes formed during step a) as an indication of the presence of said anti-M. *catarrhalis* antibodies in the test sample.
38. The method of claim 37, further comprising c) measuring the amount of immunocomplexes formed.
39. A diagnostic kit for detecting antibodies to M. *catarrhalis*, said kit comprising the isolated OMP21 of claim 1, the pharmaceutical composition of claim 9 or immunogenic composition of claim 19, a container means for contacting said composition with a test sample suspected of having antibodies to M. *catarrhalis* and a reagent means for detecting M. *catarrhalis* antigen: anti-M. *catarrhalis* antibody immunocomplexes formed between said composition and said antibodies.
40. A method for detecting the presence of M. *catarrhalis* in a test sample comprising the steps of: a) contacting a test sample with the antibody of claim 33 or 34 for a time sufficient to allow said antibody to bind M. *catarrhalis*, if present, to form M. *catarrhalis*: anti-M. *catarrhalis* antibody immunocomplexes, and b) detecting said immunocomplexes formed during step a) as an indication of the presence of said M. *catarrhalis* in the test sample.
41. The method of claim 40, further comprising c) measuring the amount of immunocomplexes formed.
42. A diagnostic kit for detecting the presence of M. *catarrhalis*, said kit comprising the antibody of claim 32, a container means for connecting said antibody with a test sample suspected of having said M. *catarrhalis* and a reagent means for measuring M. *catarrhalis*: anti-M. *catarrhalis* antibody immunocomplexes formed between said antibodies and said M. *catarrhalis*.
43. A method for determining the presence of nucleic acid encoding OMP21 in a sample, comprising the steps of: a) contacting a sample with a nucleic acid molecule encoding the OMP21 of claim 1 or a complement of said nucleic acid molecule to produce duplexes comprising the nucleic acid molecule and any said nucleic acid molecule encoding the OMP21 in the sample and specifically hybridizable therewith; and b) detecting duplexes produced.
44. A diagnostic kit for determining the presence of nucleic acid encoding OMP21 in

a sample, comprising: a) the nucleic acid molecule encoding the OMP21 of claim 1 or a complement of said nucleic acid molecule; b) a means for contacting the nucleic acid with a sample to produce duplexes comprising the nucleic acid molecule and any said nucleic acid molecule encoding the OMP21 in the sample and specifically hybridizable therewith; and c) means for detecting duplexes produced.

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File: PGPB

Nov 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020177200
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020177200 A1

TITLE: Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof

PUBLICATION-DATE: November 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tucker, Kenneth	Frederick	MD	US	
Plosila, Laura	Cary	NC	US	

US-CL-CURRENT: 435/183; 424/190.1, 424/251.1, 530/388.26

CLAIMS:

What is claimed is:

1. An isolated or substantially pure OMP106 polypeptide, which is an outer membrane polypeptide of Moraxella catarrhalis, and has a molecular weight of about 180 kD to about 230 kD as determined in SDS polyacrylamide gel electrophoresis using rabbit skeletal muscle myosin and E. coli .beta.-galactosidase as the 200 kD and 116.25 kD molecular weight standards, respectively.

2. The OMP106 polypeptide of claim 1, which has a molecular weight of about 190 kD.

3. The OMP106 polypeptide of claim 1, which is an outer membrane polypeptide of Moraxella catarrhalis strain selected from the group consisting of ATCC 25238, ATCC 25240, ATCC 43617, ATCC 43618, ATCC 43627, ATCC 43628 and ATCC 49143.

4. The OMP106 polypeptide of claim 3, which Moraxella catarrhalis strain is ATCC 49143.

5. The OMP106 polypeptide of claim 3, wherein the Moraxella catarrhalis is a hemagglutinating cultivar.

6. The OMP106 polypeptide of claim 1, which reacts with silver stain.

7. The OMP106 polypeptide of claim 1, which specifically binds an antibody that specifically binds the sequence of SEQ ID NO:1 or a fragment thereof.

8. The OMP106 polypeptide of claim 1, which specifically binds an antibody that specifically binds the sequence of SEQ ID NO:2.

9. An isolated or substantially pure OMP106 polypeptide comprising a sequence

h e b b g e e f c e chf

e ge

substantially homologous to the sequence of SEQ ID NO:1.

10. The OMP106 polypeptide of claim 9, which additionally comprises the sequence of SEQ ID NO:2.

11. The OMP106 polypeptide of claim 9, which comprises the sequence of SEQ ID NO:1.

12. The OMP106 polypeptide of claim 11, which additionally comprises the sequence of SEQ ID NO:2.

13. An isolated antibody that specifically binds the OMP106 polypeptide of claim 1 or a fragment thereof.

14. An isolated antibody that specifically binds the OMP106 polypeptide of claim 9 or a fragment thereof.

15. An isolated antibody that specifically binds the OMP106 polypeptide of claim 11 or a fragment thereof.

16. The isolated antibody of claim 13 or 14, which is a cytotoxic antibody that mediates complement killing of *Moraxella catarrhalis*.

17. A peptide fragment of the OMP106 polypeptide of claim 1, which specifically binds to an antibody that specifically binds said OMP106 polypeptide.

18. A peptide fragment of the OMP106 polypeptide of claim 9, which specifically binds to an antibody that specifically binds said OMP106 polypeptide.

19. A vaccine comprising the OMP106 polypeptide of any of claims 1, 2, 5 or 9.

20. A vaccine comprising the peptide fragment of claim 17 or 18.

21. An antigenic composition comprising the OMP106 polypeptide of any of claims 1, 2, 5 or 9.

22. An antigenic composition comprising the peptide fragment of claim 17 or 18.

23. A substantially pure DNA comprising a nucleotide sequence encoding the OMP106 polypeptide of claim 1 or 9.

24. A substantially pure DNA comprising a nucleotide sequence encoding the peptide of SEQ ID NO:1.

25. A substantially pure DNA encoding an OMP106 polypeptide, which comprises a nucleotide sequence that hybridizes under high stringency conditions to the sequence of SEQ ID NO:4 or the complement of sequence of SEQ ID NO:4.

26. The DNA of claim 24, which comprises the sequence of SEQ ID NO:4 or the complement of sequence of SEQ ID NO:4.

27. A method of producing an immune response in an animal comprising immunizing the animal with an effective amount of the OMP106 polypeptide of any of claims 1, 2, 5 or 9.

28. A method of producing an immune response in an animal comprising immunizing the

animal with an effective amount of the peptide fragment of claim 17 or 18.

29. A method of producing a non-hemagglutinating cultivar of *M. catarrhalis* from a HA *M. catarrhalis* strain or cultivar, which comprises serially passaging a HA *M. catarrhalis* strain or cultivar in static liquid cultures.

30. Plasmid pOMP106X obtainable from *E. coli* Top10 (pOMP106X), as deposited with the ATCC and assigned accession number 98579.

31. A substantially pure DNA encoding an OMP106 polypeptide, which comprises a nucleotide sequence that hybridizes to the sequence of SEQ ID NO:9 or the complement of sequence of SEQ ID NO:9.

32. The DNA of claim 31, which comprises the sequence of SEQ ID NO:9 or the complement of sequence of SEQ ID NO:9.

33. An isolated or substantially pure OMP106 polypeptide comprising a sequence substantially homologous to the sequence of SEQ ID NO:10.

34. The OMP106 polypeptide of claim 33, which comprises the sequence of SEQ ID NO:10.

35. An isolated antibody that specifically binds the OMP106 polypeptide of claim 33 or a fragment thereof.

36. A peptide fragment of the OMP106 polypeptide of claim 33, which specifically binds to an antibody that specifically binds said OMP106 polypeptide.

37. A vaccine comprising the OMP106 polypeptide of claim 33.

38. A vaccine comprising the peptide fragment of claim 36.

39. An antigenic composition comprising the peptide fragment of claim 36.

40. A method of producing an immune response in an animal comprising immunizing an animal with an effective amount of the OMP106 polypeptide of claim 33.

41. A method of producing an immune response in an animal comprising immunizing an animal with an effective amount of the peptide fragment of claim 36.

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File: PGPB

Nov 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020177200

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TITLE: Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof

PUBLICATION-DATE: November 28, 2002

INVENTOR-INFORMATION:

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ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Antex Biologics Inc.				02

APPL-NO: 09/ 813214 [PALM]

DATE FILED: March 20, 2001

RELATED-US-APPL-DATA:

Application 09/813214 is a division-of US application 08/968685, filed November 12, 1997, PATENTED

Application 08/968685 is a continuation-in-part-of US application 08/642712, filed May 3, 1996, PENDING

INT-CL: [07] A61 K 39/02, C12 N 9/00, C07 K 16/12

US-CL-PUBLISHED: 435/183; 424/190.1, 424/251.1, 530/388.26

US-CL-CURRENT: 435/183; 424/190.1, 424/251.1, 530/388.26

REPRESENTATIVE-FIGURES: NONE

ABSTRACT:

The invention discloses the Moraxella catarrhalis outer membrane protein-106 (OMP106) polypeptide, polypeptides derived therefrom (OMP106-derived polypeptides), nucleotide sequences encoding said polypeptides, and antibodies that specifically bind the OMP106 polypeptide and/or OMP106-derived polypeptides. Also disclosed are immunogenic, prophylactic or therapeutic compositions, including vaccines, comprising OMP106 polypeptide and/or OMP106-derived polypeptides. The invention additionally discloses methods of inducing immune responses to M. catarrhalis and M. catarrhalis OMP106 polypeptides and OMP106-derived polypeptides in animals.

[0001] This application is a continuation application of United States patent

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File: USPT

Apr 10, 2001

*Parent
case
restricted*US-PAT-NO: 6214981DOCUMENT-IDENTIFIER: US 6214981 B1

TITLE: Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

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US-CL-CURRENT: 536/23.1; 424/184.1, 424/190.1, 424/234.1, 536/23.7

CLAIMS:

What is claimed is:

1. An isolated DNA which comprises a recombinant nucleotide construct comprising a nucleotide sequence encoding an OMP106 polypeptide, which is an outer membrane polypeptide of Moraxella catarrhalis, and has a molecular weight of about 180 kD to about 230 kD as determined in SDS polyacrylamide gel electrophoresis using rabbit skeletal muscle myosin and E. coli .beta.-galactosidase as the 200 kD and 116.25 kD molecular weight standards, respectively, and which OMP106 polypeptide comprises the amino acid sequence of SEQ ID No: 1.

2. An isolated DNA which comprises a recombinant nucleotide construct comprising a nucleotide sequence encoding the peptide of SEQ ID No: 1.

3. An isolated DNA which comprises a recombinant nucleotide construct encoding an OMP106 polypeptide, which comprises a nucleotide sequence that hybridizes under high stringency conditions to the sequence of SEQ ID No: 4 or the complement of SEQ ID No: 4.

4. The DNA of claim 1, which comprises the sequence of SEQ ID NO:4 or the complement of sequence of SEQ ID NO:4.

5. Plasmid pOMP106X obtainable from E. coli Top10 (pOMP106X), as deposited with the ATCC and assigned accession number 98579.

6. An isolated DNA which comprises the sequence of SEQ ID NO:9 or the complement of sequence of SEQ ID NO:9.

7. An isolated DNA which comprises a recombinant nucleotide construct

comprising nucleotides 218 to 6589 of SEQ ID NO:9 which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:10.